COMPUTER NETWORKING SYSTEMS (CNTS), AAS

At Dunwoody College of Technology, the Computer Networking Systems program prepares graduates for careers in the rapidly growing and changing fields of enterprise computer systems and networking administration.

Students are taught current technologies and skills to architect, support, build, and maintain enterprise networks and systems. Those technologies include cloud services, virtualization, IT security, directory services, network and systems automation, enterprise applications, and routing and switching.

Coursework includes Amazon and Microsoft cloud services featuring Amazon Academy curriculum, Microsoft and Linux operating systems, related network support services featuring Cisco® Academy curriculum, and desktop and server hardware. Students also develop skills in coding, computer logic, and data communications. Interpersonal soft-skills are emphasized in all courses.

Arts & Sciences courses enhance and support the technical coursework.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day on Campus or Evening Online Hybrid
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Cybersecurity (CYBR), Bachelor of Science (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/computer-technology/cybersecurity-cybr-bs/)

Program Outcomes

- Create an enterprise network system.
- Configure enterprise hardware.
- Build a virtualized enterprise environment.
- Use programming fundamentals for automating networks and services.
- Deploy relevant industry applications in an enterprise environment.
- Apply troubleshooting techniques to discover and resolve problems.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
MATH1250	Boolean Algebra	3
Communications		3
Humanities		3
Social Science		3
Technical Requirements		
CLDE1110	Introduction to Cloud Services	2
CLDE1120	DevOps Fundamentals	2
CNTS1102	Introduction to Operating Systems	2
CNTS1123	Introduction to Networking	2
CWEB1114	Introduction to Application Dev	2
CWEB1123	Data Fundamentals	2
CNTS1212	Server Systems	3
CLDE1210	Cloud Architecting	3
CNTS1202	Scripting	3
CNTS1232	Network Systems	3
CNTS2103	Enterprise Routing & Services I	3
CNTS2113	Enterprise Linux Administration	3
CNTS2131	Virtualization	3
CNTS2140	Securing Enterprise Server Environments	3
CNTS2203	Enterprise Routing & Services II	3
CNTS2214	Advanced Server Infrastructure	3
CLDE2291	Summative Experience	5
Total Credits		**62**

Courses

Descriptions

CLDE1110 | Introduction to Cloud Services | Lecture/Laboratory (2 Credits)
Exploration of the technology and terms used in modern cloud services. Portions of this course help to prepare for the Amazon Cloud Practitioner exam.

CLDE1120 | DevOps Fundamentals | Lecture/Laboratory (2 Credits)
Investigation of industry-standard terminology technology and core principles used in automating the modern datacenter. Portions of this course help to prepare for the ICP Foundations of DevOps exam.

CNTS1102 | Introduction to Operating Systems | Lecture/Laboratory (2 Credits)
Examine concepts of computer operating systems found in the datacenter. Navigation and manipulating of the file systems using command line and GUI interfaces of current Linux and Windows operating systems to gain an understanding of how they work, their similarities and differences. Portions of this course help to prepare for the CompTia A+ exam.

CNTS1123 | Introduction to Networking | Lecture/Laboratory (2 Credits)
Introduction to the concepts and terminology of data communications in a datacenter. Examine client-server networking, communication hardware, software, and security. Analyze services and models supporting data communications interoperability. Configure and troubleshoot network connections and the associated hardware/software.

CWEB1114 | Introduction to Application Dev | Lecture/Laboratory (2 Credits)
Code responsive, secure web app using HTML, CSS, JavaScript and server-side language while understanding the Software development life cycle and modern development methodologies.

CWEB1123 | Data Fundamentals | Lecture/Laboratory (2 Credits)
Examine the concepts of data and logical structures of data. Explore database types including relational, hierarchical, and graph data structures, and common search algorithms and query structures. Build a relational database using MySQL workbench. Utilize Structured Query Language (SQL) core skills (Queries, operators and keys).

CNTS1212 | Server Systems | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage the core services in current Linux and Windows server operating systems. Introduction to the sharing of system resources, remote administration, directory services security and backups. Portions of this course help to prepare for the Microsoft Identity and Access Administrator exam.

CLDE1210 | Cloud Architecting | Lecture/Laboratory (3 Credits)
Architecting business solutions for modern cloud services utilizing industry best practice concepts. Portions of this course help to prepare for the Amazon Cloud Architect Associate exam.

CNTS1202 | Scripting | Lecture/Laboratory (3 Credits)
Apply programming best practices to managing computer systems and networks. Topics include: development of real world scripts used to manage enterprise networks with a focus on Python and PowerShell.

CNTS1232 | Network Systems | Lecture/Laboratory (3 Credits)
Expansion of concepts and terminology of business data communications and how they apply to the business environment. Intermediate to advanced client-server networking concepts, including its associated networking hardware, addressing and services; logical addressing, IP routing, and network protocols. Install and configure client-server networking systems. Portions of this course help to prepare for the CompTIA Network+ exam.

CNTS2103 | Enterprise Routing & Services I | Lecture/Laboratory (3 Credits)
Examine concepts and application of bridging, switching, routing, and firewalls in an industry-standard networking environment. Install, configure, and manage networks, routers, switches, and firewalls to facilitate basic network communication architectures. Portions of this course help to prepare for the Cisco Certified Networking Associate (CCNA) exam.

CNTS2113 | Enterprise Linux Administration | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage a wide variety of Open Source Software (OSS) with an emphasis on common web, file and database servers found in industry; the history of the open source movement. Configure OSS operating systems to support common client-servers, Web hosting, and other services commonly found at the enterprise and ISP levels of industry. In-depth coverage of technologies related to hosting websites including programming language support, database support/connectivity, and remote access. Portions of this course help to prepare for the Red Hat Certified Engineer exam.

CNTS2131 | Virtualization | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage a variety of virtualization software; examine the underlying principles of virtualization; create a virtual IT infrastructure; advantages and disadvantages of moving to a virtualized environment; comparison of major virtualization software systems. Portions of this course help to prepare for the Professional VMware vSphere Exam.

CNTS2140 | Securing Enterprise Server Environments | Lecture/Laboratory (3 Credits)
Proactively secure enterprise and hybrid environments, implement and manage security and compliance solutions, respond to threats, and enforce data governance. Portions of this course help to prepare for the Microsoft 365 Certified: Security Administrator Associate exam.

CNTS2203 | Enterprise Routing & Services II | Lecture/Laboratory (3 Credits)
Advanced concepts and application of bridging, switching, routing, and firewalls in an industry-standard networking environment. Practice advanced business network communication architectures. This course helps to prepare for the Cisco Certified Networking Associate (CCNA) exam.

CNTS2214 | Advanced Server Infrastructure | Lecture/Laboratory (3 Credits)
Evaluate, plan, migrate, deploy, and manage Microsoft 365 services. Portions of this course help to prepare for the Microsoft 365 Certified: Enterprise Administrator Expert exam.

CLDE2291 | Summative Experience | Directed Study (5 Credits)
Portfolio or external intern based project work to exhibit all skills gained throughout program.

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics